

Concerned Citizens of Renfrew County and Area

The Honourable Seamus O'Regan
Minister of Natural Resources
House of Commons Ottawa, Ontario K1A 0A6

Via e-mail: Seamus.OREgan@parl.gc.ca
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Re: Canada's Radioactive Waste Policy Review

Dear Minister O'Regan:

Concerned Citizens of Renfrew County and Area (CCRCA) is an incorporated, non-profit organization that has been working for the clean-up and prevention of radioactive pollution from the nuclear industry in the Ottawa Valley for 40+ years. Our current focus is nuclear waste, in particular the proposed giant mound for one million cubic meters of radioactive waste at the federally owned Chalk River Laboratories, and the proposed "entombment" of the federal Nuclear Power Demonstration reactor at Rolphton, Ontario.

A modernized radioactive waste policy should state Canada's intent to fully meet its obligations pursuant to international legal instruments developed by the International Atomic Energy Agency (IAEA), specifically the *Convention on Nuclear Safety* and the *Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*.

The modernized policy should explicitly state Canada's intent to meet its obligations under Article 4 (Implementing Measures) and Article 5 (Reporting) of the *Convention on Nuclear Safety*, and under Article 12 (Existing Facilities and Past Practices) and Article 32 (Reporting) of the *Joint Convention*.

With regard to Article 32, Canada should require that all owners and generators of radioactive waste maintain full inventories of waste volume or mass, activity and specific radionuclides. Where only estimates of volume or mass, activity and specific radionuclides are available, the methods and assumptions used in preparing these radioactive waste inventory estimates should be described in sufficient detail that an independent body can verify the estimates.

Radioactive waste inventories should be updated regularly and be made publicly available on an ongoing (e.g., annual) basis.

A national body – a national radioactive waste authority - should be established with a legislated mandate to maintain records, knowledge and memory of radioactive waste. The authority should be charged with maintaining a national radioactive waste inventory.. It should have a capacity and legal mandate to inspect nuclear facilities and independently verify inventory information provided by waste generators and owners. The national authority should be independent of other bodies -- whether government or private sector -- that regulate, utilize or promote nuclear energy.

The radioactive waste authority should ensure traceability of radioactive waste, including any transfers of waste for processing, storage, or disposal. Responsibility for traceability and maintenance of records, knowledge and memory related to radioactive waste should not rest with Canada's nuclear regulator.

When any proposal is submitted to Canada's nuclear regulator for a new nuclear facility or activity (such as decommissioning) that would generate, store, dispose of, or transfer wastes, the proponent should also be required to submit estimates of the volume or mass, activity and specific radionuclides in the radioactive wastes associated with that facility or activity to Canada's national radioactive waste authority.

In the case of any proposed new nuclear reactors – such as “small modular reactors” - this should include a full accounting of activation products created by neutron bombardment of reactor components, fission products and transuranics in the fuel, and wastes associated with fuel fabrication, processing, and reprocessing.

The proponent of a new nuclear facility or activity (such as decommissioning) should also be required to submit a detailed management plan for wastes arising to the national authority. Acceptance of the waste estimates and the management plan by Canada's national radioactive waste authority should be required prior to approval of any new facility or activity by Canada's nuclear regulator.

Canada's modernized radioactive waste policy should state explicitly that the protection of human health by avoiding radiological exposure shall be given the highest priority in radioactive waste management, and cannot be compromised by economic considerations of “cost-effectiveness”. It should state explicitly that radioactive waste generation shall be minimized. It should state explicitly that every effort shall be made to minimize the waste burden imposed on future generations.

Canada's modernized policy should state explicitly that radioactive waste shall be contained and isolated from the biosphere.

Canada's modernized policy should state explicitly that the public shall have full access to information about radioactive waste.

Canada's modernized policy should state explicitly the principle of justification as described in the IAEA *Fundamental Safety Principles*: that "facilities and activities that give rise to radiation risks must yield an overall benefit," and that the benefit must "outweigh the radiation risks to which they give rise."

The national radioactive waste authority should be given the mandate to ensure that generators and owners of radioactive waste adhere to these principles.

At present, Canada's 143-word "Radioactive Waste Policy Framework" (RWPF) – in calling only for "waste disposal plans" – ignores the internationally agreed pre-disposal requirements for radioactive waste found in the IAEA General Safety Requirements (GSR) Part 5, *Predisposal Management of Radioactive Waste*. Requirements of GSR Part 5 that are not addressed in the RWPF include 2 on "National policy and strategy on radioactive waste management," 8 on "Radioactive waste generation and control," 9 on "Characterization and classification of radioactive waste," 11 on "Storage of radioactive waste", and 20 on "Shutdown and decommissioning of facilities."

Canada is currently on a slippery slope to radioactive waste abandonment, with risks of undocumented waste transfers and illegal dumping, exposing future generations to unknown radiological hazards. The emphasis on disposal in the RWPF creates an "out of sight, out of mind" mentality.

Much of Canada's current radioactive waste legacy has been created by the Government of Canada itself. The federal government has failed to acknowledge its own responsibilities as waste generator and owner. It remains an active promoter of nuclear energy under a *Nuclear Energy Act* that gives the Minister of Natural Resources powers to "utilize, cause to be utilized and prepare for the utilization of nuclear energy."

The RWPF, in stating the "polluter pays" principle, is fundamentally at odds with Government of Canada assertions that nuclear energy is "clean".

A national radioactive waste authority that is accountable to elected public officials but independent of government or industry bodies that promote or utilize nuclear energy is an essential complement to a modernized radioactive waste policy.

As owner of Canada's only licensed commercial radioactive waste storage facility at the Chalk River Laboratories (CRL), the federal government has assumed ownership of significant inventories of industrial, hospital, and university wastes.

Some industrial wastes stored at CRL are imports from foreign countries. Canadian companies are major manufacturers of cobalt-60 "sealed sources". Canada's *Seventh National Report to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management* says "Canada remains a global leader in the production and export of Category 1 cobalt-60 radioactive sealed sources, supplying approximately 95 percent of the global demand."

Article 28 of the *Joint Convention* says

A Contracting Party shall allow for re-entry into its territory of disused sealed sources if, in the framework of its national law, it has accepted that they be returned to a manufacturer qualified to receive and possess the disused sealed sources.

Canada has not to our knowledge accepted the return of sealed sources in the framework of its national law; nonetheless, Canadian companies such as Nordion, Best Theratronics, and SRB Technologies are doing a brisk trade in waste imports in the form of disused sealed sources and expired self-luminous tritium devices..

These companies do not necessarily limit their imports to devices of their own manufacture. Imported radioactive wastes are being sent to CRL, where they become the property of the Government of Canada.

Canada's modernized radioactive waste policy should ban radioactive waste imports.

A national radioactive waste authority should have the mandate to track the inventory of private sector waste transferred to Government of Canada ownership. The authority should collect payments that are adequate for the long-term management of transferred wastes. It should assume the management of the fund currently overseen by the federal crown corporation Atomic Energy of Canada Limited. It should be responsible for developing appropriate management strategies for federal nuclear wastes.

Responsibility for management of wastes owned by the Government of Canada should not be in the hands of a body with a mandate to promote and utilize nuclear energy

With regard to Canada's obligations under Article 12 (Existing Facilities and Past Practices) of the *Joint Convention*, the national radioactive waste authority should be responsible for remediation of areas contaminated by past practices. Canada's obligations in this regard are described in requirement 49 ("Responsibilities for remediation of areas with residual radioactive material") of the IAEA GSR Part 3, *Radiation Protection and Safety of Radiation Sources*.

Areas with "residual radioactive material" include those contaminated by uranium mines and processing facilities formerly owned by the Government of Canada (including those in the Port Hope area) as well as federally-owned nuclear facilities (such as the Chalk River Laboratories).

GSR Part 3 requirements for areas contaminated by past practices include a remedial action plan, appropriate record keeping, a strategy for managing wastes arising, and public involvement in planning, implementation and verification of remedial actions.

These requirements should be met by a national radioactive waste authority – a body that does not have a mandate to promote and utilize nuclear energy.

The federal crown corporation Atomic Energy of Canada Limited is not the appropriate body to meet these requirements.

Of particular concern to our group is that Atomic Energy of Canada Limited is allowing private companies under contract to transfer radioactive and other hazardous wastes from federal nuclear facilities in Manitoba, southern Ontario, and Quebec to the Chalk River Laboratories. This is being done under an unapproved "Integrated Waste Strategy". There is no long-term management plan for the transferred wastes, nor is there a remedial action plan for the Chalk River Laboratories.

We submit that Atomic Energy of Canada Limited is acting in a non-transparent and unaccountable manner and showing disrespect for the Government of Canada's obligations to Indigenous rights holders and to the public at large.

With regard to lack of transparency of activities related to radioactive waste transport, processing and storage, Atomic Energy of Canada Limited is allowing Canadian Nuclear Laboratories, a private company owned by a consortium of multinational engineering firms, to make its own determinations regarding a range of activities at the Chalk River Laboratories that may have significant adverse environmental impacts but are not being adequately disclosed or reviewed under the *Impact Assessment Act*.

During the period November 2020 to March 2021, numerous “section 82” waste-related projects were posted on the Impact Assessment Registry with essentially no information other than the following headings:

81139 Canadian Nuclear Laboratories Cask Facility Project
81177 Canadian Nuclear Laboratories Intermediate Level Waste Storage Area
81178 Canadian Nuclear Laboratories Bulk Storage Laydown Area
81209 Canadian Nuclear Laboratories Material Pit Expansion Project
81375 Canadian Nuclear Laboratories Building Demolition Project
81389 Canadian Nuclear Laboratories Waste Management Area Modification Project
81403 Canadian Nuclear Laboratories Heel Storage Removal Project
81424 Canadian Nuclear Laboratories Effluent Monitoring Stations Upgrade Project
81443 Canadian Nuclear Laboratories Multi-Purpose Waste Handling Facility

For each of these projects, a “Notice of Determination” has now been issued. All have been similar to the one for project 81443:

Canadian Nuclear Laboratories, on behalf of Atomic Energy of Canada (AECL) has determined that the proposed Multi-Purpose Waste Handling Facility Project at AECL's Chalk River site is not likely to cause significant adverse environmental effects... Therefore, Canadian Nuclear Laboratories, on behalf of Atomic Energy of Canada may carry out the project, exercise any power, perform any duty or function, or provide financial assistance to enable the project to be carried out in whole or in part.

Beginning on April 1, 2021, our group sent repeated e-mails asking for information on these projects to the contact person listed in the Impact Assessment Registry: Patrick Quinn, Director, Corporate Communications, Canadian Nuclear Laboratories. Mr. Quinn has sent e-mails in reply promising to provide information, but no information has been forthcoming to date. In the meantime, the 30-day deadlines for public comments on all these projects have passed.

We question the acceptability of a process by which Canadian Nuclear Laboratories, a privately-owned company, makes its own determinations that its projects, carried out on federal land, are not likely to cause significant adverse environmental effects.

We brought this to the attention of Nana Kwamena, Ph.D., Director, Environmental Assessment Division, Canadian Nuclear Safety Commission, on April 8th. She replied:

The projects listed below are activities that CNL is authorized to conduct under its current licence. No additional authorization or assessment is required by

CNSC. Therefore, I recommend reaching out directly to CNL to receive additional information about these projects.

We also brought this to the attention of Mr. David McGovern, President of the Impact Assessment Agency of Canada (IAAC), We asked “Is Canadian Nuclear Laboratories a federal authority for the purposes of section 81 of the [Impact Assessment] Act? If so, how should we proceed in obtaining information that will allow us to submit comments on this company’s projects?”

On April 16th the IAAC replied that AECL “is the federal authority responsible for making the environmental effects determination required by section 82 of the Impact Assessment Act (IAA) as it is a Crown corporation,” and AECL “indicated that they work with the Canadian Nuclear Laboratories (CNL) in implementing their obligations.” IAAC added that “we have been assured that AECL or CNL will be in touch with you shortly to provide answers to any questions you may have on these projects” However, neither AECL nor CNL provided details on the projects prior to the date of this submission.

Lack of transparency and lack of opportunities for public input related to radioactive waste-related activities on federal lands is unacceptable. Full transparency must be a foundational principle of Canada’s radioactive waste policy. It is particularly troubling that the Government of Canada itself is violating this principle.

We note that the Government of Canada has provided \$50.5 million to Moltex Energy Canada Inc., to develop a process to “recycle” – extract plutonium from -- used nuclear fuel. Moltex has [announced](#) that it is partnering with Canadian Nuclear Laboratories to “design, build and optimize the test apparatus used to process the used fuel.”

Waste and nuclear weapons proliferation issues related to reprocessing used fuel to extract plutonium for use in small modular reactors have received considerable media attention in recent days. Our group is very concerned that research on this process will be carried out at Chalk River Laboratories, very likely without transparency. Canada’s radioactive waste policy should prohibit reprocessing of nuclear fuel waste.

Problems identified in this submission -- non-transparency, lack of full waste accounting, undocumented waste transport, lack of waste traceability, waste imports from foreign countries, the slippery slope toward waste abandonment, nuclear weapons proliferation risks of plutonium reprocessing, lack of remedial action plans for areas contaminated through past practices, avoidance of environmental assessment – should be addressed in a modernized policy, and through creation of a national radioactive waste authority, independent and arms-length from any government department, crown corporation or

agency whose mandate includes the utilization or promotion of nuclear energy.